

IN THE CLAIMS

1. (Currently Amended) A rectangular microwave applicator arranged to operate at a predetermined frequency, and comprising a microwave enclosure forming a cavity having first and second transverse dimensions and a longitudinal dimension in the direction of propagation of microwave energy, ~~characterized in that~~ wherein said dimensions are such that a main power-transferring TE_{ym1n} mode with a long vertical wavelength is enhanced, and a significant amplitude of a complementary TE_{ym2n} mode is created, wherein m₁, m₂ and n are positive odd integers and m₂ and n are both less or equal to m₁-2.

2. (Original) A microwave applicator according to claim 1, further comprising corrugations or metal rods at the tunnel bottom in order to reduce the action and spread-out of LSM modes created by the TE_{ym1n} mode.

3. (Original) A microwave applicator according to claim 1, wherein a mode choke is achieved at the horizontal upper and lower planes of the tunnel ends by means of a horizontal elongated quarterwave slot provided in the vertical y-directed sidewall of the tunnel side, said mode choke being adapted to reduce the microwave leakage in the tunnel openings.

4. (Original) A microwave applicator according to claim 1, wherein the main power-transferring mode is a TE_{y31} mode, and the complementary mode is a TE_{y11} mode.

5. (Original) A microwave applicator according to claim 1, wherein the main power-transferring mode is a TE_{y71} mode, and the complementary mode is a TE_{y31} mode.

6. (Original) A microwave applicator according to claim 1, the applicator comprising two parallel feed slots in a top wall thereof connecting the microwave enclosure to a TE₁₀ waveguide, and a metal post arranged at the waveguide centreline between the slots.

7. (Original) A microwave applicator according to claim 6, wherein width of the waveguide is about 86 mm, and the height of the waveguide is about 20-25 mm.

8. (Currently Amended) A. microwave applicator according to ~~claim 6 or 7~~, claim 6, wherein the horizontal dimensions of the metal post are 12 x 20 mm, and the height of said post is about 9-11 mm.

9. (Original) A microwave applicator according to claim 1, wherein the first and second dimensions of the cavity are 194x308 mm, and the longitudinal dimension is 140 mm, in order for the applicator to enhance the main power-transferring TE_{y31} mode and the complementary TE_{y11} mode at an operating frequency of 2450 MHz.

10. (Original) A microwave applicator according to claim 1, wherein the first and second dimensions of the cavity are 306x436 mm. End the longitudinal dimension is 140 mm, in order for the applicator to enhance the main power-transferring TE_{y71} mode and the complementary TE_{y31} mode at an operating frequency of 2450 MHz.